

1/8 EK

Notice of Allowability

Application No.

09/652,993

Examiner

José R. Díaz

Applicant(s)

AGARWAL, VISHNU K.

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2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/6/05.
2. ☒ The allowed claim(s) is/are 4,76,77,81-85 and 89-92.
3. ☒ The drawings filed on 31 August 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12/21/04; 9/29/04; 7/26/04; 1/26/04 **
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

** IDS Mail Date: 1/14/04; 12/01/03; 11/12/03; 9/2/03

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marcus Simon on May 9, 2005.

The application has been amended as follows:

Claim 4:

4. (Currently Amended) A method of passivating a conductive material, comprising:

providing ~~[[said]]~~ a first conductive material, wherein said first conductive material has an ability to associate with oxygen; and

exposing said first conductive material to methylsilane ; and

forming a second conductive layer that is capacitively coupled to the first conductive material.

Claim 76:

76. (Currently Amended) A method of passivating a conductive material, comprising:

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providing a tungsten nitride layer that is capacitively coupled to a conductive layer;

exposing the tungsten nitride layer to methylsilane; and

providing a polysilicon layer on the tungsten nitride layer ; ~~and~~

~~exposing the tungsten nitride layer to methylsilane .~~

Claim 77, lines 1-3:

The method in claim 76, wherein exposing the tungsten nitride layer comprises exposing the tungsten nitride layer to at least methylsilane ~~one material in the recited group~~ under process conditions comprising:

Claim 81, line 3:

providing a first conductive plug on a semiconductor substrate ;

Claim 89, line 1:

The method of claim 4 wherein the first conductive

Claim 90, lines 1-2:

The method of claim 4 wherein exposing said first conductive material comprises exposing the first conductive material to at least one material in

Reasons for allowance

2. The following is an examiner's statement of reasons for allowance: the prior art fails to teach, disclose, or suggest, either alone or in combination, the step of exposing a conductive material to methylsilane as instantly claimed, and in combination with the additional method steps.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

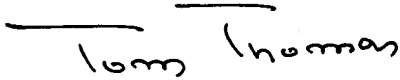
Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (571) 272-1727. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRD
5/13/05


TOM THOMAS
SUPERVISORY PATENT EXAMINER